QUARTERLY GROUNDWATER MONITORING REPORT (AUGUST 2003)

HAWLEY AUTO BODY AND PAINT
2902 LYTTON STREET
SAN DIEGO, CA 92110

UNAUTHORIZED RELEASE
FILE NO. H12948-002

PREPARED BY:
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October 9, 2003
Project No. 200223H

Dr. Nasser Sionit
Site Assessment and Mitigation Program
County of San Diego
Department of Environmental Health Services
1255 Imperial Avenue, 3rd Floor
P.O. Box 129261
San Diego, CA 92112-9261

Re: Quarterly Groundwater Monitoring Report
Hawley Auto Body and Paint
Unauthorized Release File No. H12948-002
2902 Lytton Street
San Diego, CA 92110

Dear Dr. Sionit:

On behalf of our client, Hawley Auto Body and Paint, D-MAX Engineering, Inc. (D-MAX) is pleased to submit the attached Quarterly Groundwater Monitoring Report. Presented in this report are the results of the fourth quarter of groundwater monitoring conducted on August 11 and 12, 2003, in accordance with the County of San Diego's letter dated November 7, 2002 and the submitted workplan dated November 20, 2002.

This report concludes our four quarters of sampling that commenced in December of 2002. Based on the analytical results, we were not able to establish a trend analysis after completing the past four quarters of sampling and monitoring. As suggested by the proposed Corrective Action Plan (CAP) dated April 8, 2003 and concurred with by the County of San Diego in the letter dated July 21, 2003, uninterrupted quarterly monitoring is recommended until a trend analysis can be established.

Should you have any questions regarding this report, please do not hesitate to contact me at (858) 455-9988 Ext.22.

Sincerely,
D-MAX Engineering, Inc.

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

cc: Mr. Don Hawley, Hawley Auto Body and Paint

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SITE DESCRIPTION

Hawley Auto Body And Paint is located at 2902 Lytton Street, San Diego, California, approximately 200 feet southeast of Rosecrans Street (Figure 1). The project site is bordered on the south side by Lytton Street and on the west side by an AM/PM mini-mart and Loma Carwash. To the east of the project site is a motorcycle shop, and to the north of the site are apartments and single-family residential properties. A review of the 1975 United States Geological Survey (USGS) 7.5 Minute Quadrangle, Point Loma, California topographic map indicates that the site lies at an elevation of approximately 40 feet above mean sea level (MSL).

Currently, there are nine groundwater monitoring wells at the subject property. Based on the workplan submitted on November 20, 2002, nine monitoring wells designated for sampling on a quarterly basis for a period of one year. The monitoring wells have been sampled historically under a separate workplan between February 2000 and February 2002; however, the County requested an additional year of quarterly monitoring. To date, quarterly monitoring was completed in December 2002, March 2003, and June 2003. This report presents the fourth quarter sampling results from the August 2003 quarterly sampling event.

MONITORING WELL PURGING AND SAMPLING

On August 11 and 12, 2003, D-MAX Engineering, Inc. conducted the fourth round of groundwater sampling at Hawley Auto Body And Paint. Monitoring wells MW-1 through MW-9 were purged, and groundwater samples were collected and submitted to an analytical laboratory.

The purging commenced with measuring the depth to groundwater at each well. The depth to groundwater ranged from 20.80 feet below ground surface (bgs) at monitoring well MW-9 to 28.31 feet bgs at monitoring well MW-1. Table 1 presents the elevations of the monitoring wells and groundwater elevations. The results of the groundwater elevation were used to develop a groundwater contour map shown in Figure 2. The groundwater flow direction was calculated to the east with an approximate average gradient of 0.0015 feet/foot.

The borehole volume for each well was calculated by using the protocol outlined in Section 5 of the 2002 Site Assessment and Mitigation (SAM) Manual. Once the recharge characteristics of the wells were determined, we were able to start the well purging process. An electric water pump was used to discharge groundwater from each of the monitoring wells. The discharged groundwater was placed into 55-gallon drums staged at the subject property until it could be disposed of at a later time.

Groundwater purging from each monitoring well took place in several steps. Initially, one borehole volume of water was removed using the water pump. Once the borehole volume was removed, a groundwater sample was collected and measured for pH, temperature, and electrical conductance. Simultaneously we measured the depth to groundwater. During the second step, one-half borehole volume of water was removed and the same groundwater quality parameters were measured. Another one-half borehole volume of groundwater was purged if the difference in pH or conductivity was greater than 10 percent of the first measurement. This process was repeated until the measured change in pH or conductivity were less than 10 percent of the previous measurements. The field datasheets are included in Appendix A.

Groundwater samples were collected using disposable bailers from each monitoring well once the groundwater parameters were stabilized within 10 percent of the previous measurement and the monitoring well had recovered 80 percent of the initial depth to groundwater. Once the bailer was filled with water, it was lifted out of the monitoring well and poured into four 40-milliliter glass containers and one 250-milliliter amber bottle. The bottles were labeled, stored in a sealed cooler, and submitted to EnviroMatrix Analytical Laboratory within the recommended holding times.

GROUNDWATER SAMPLE ANALYSIS

Nine sets of groundwater samples (one set for each monitoring well) were collected. No free product was observed at any of the monitoring wells. Most of the groundwater collected was clear in clarity; however, some silt and black particulates were observed in groundwater collected from monitoring wells MW-2, -5, and –6. A strong hydrocarbon odor was detected at monitoring wells MW-1, -2, -3, -4, -5, -6, -7, and –8.

Samples were analyzed for total petroleum hydrocarbons (TPH) at full carbon range in general accordance with Modified EPA Method 8015, as well as for benzene, toluene, ethylbenzene, and total xylene (BTEX), T-butyl alcohol (TBA), Di-isopropyl ether (DIPE), ethyl T-butyl ether (ETBE), T-amyl methyl ether (TAME) and methyl T-butyl ether (MTBE) in general accordance with EPA Method 8260B. The results of the analyses are presented in Table 2. The laboratory reports are included in Appendix B. A summary of all existing and previous groundwater analyses conducted for monitoring wells MW-1 through MW-9 is presented in Table 3.

ANALYTICAL RESULTS

During the fourth quarter of sampling and monitoring, TPH-gasoline, benzene, ethyl-benzene, toluene, total xylene, and MTBE were detected at the subject property. TPH-diesel, TBA, DIPE, ETBE, and TAME were not detected at any of the nine monitoring wells. The following bullets present a range of contaminant concentrations detected. Table 2 also presents the analytical results.

- TPH-gasoline was non-detect at MW-9 and ranged from 26 at MW-4 to 82,100 at MW-6.
- Benzene was non-detect at MW-1, -3, -4, -8, and -9 but ranged from 5.65 at MW-7 to 2,820 at MW-6.
- Ethyl-Benzene was non-detect at MW-1,-4, and -9 but ranged from 15.1 at MW-8 to 1,640 at MW-2.
- Toluene was non-detect at MW-1, -3, -4, -7, -8, and -9 but ranged from 673 at MW-5 to 9,260 at MW-6.
- Total xylene was non-detect at MW-1, -4, -8, and -9 but ranged from 241.6 at MW-7 to 6,710 at MW-2.
- MTBE was non-detect at MW-3, -4, -7, -8, and -9 but ranged from 43.4 at MW-5 to 158 at MW-6.

DISCUSSION

A goal of the quarterly groundwater sampling and monitoring program at Hawley Auto Body is to collect sufficient groundwater data to establish a trend analysis. In reviewing the groundwater analytical results for this quarter compared to the past three quarters, an increase in contaminant concentration was observed at several monitoring wells. An increase in TPHg concentration was observed at MW-1, -2, -3, -4, -5, -6, -7, and –8, benzene at MW-2, -6, and –7, ethylbenzene MW-2, -3, -6, -7, and –8, toluene at MW-2 and –6, total xylene at MW-2, -3, -6, and –7, and MTBE at MW-1, -2, -5, and –6. Monitoring wells MW-2 and –6 consistently showed an increase in contaminant concentrations for the aforementioned analytes, while the other monitoring wells showed an increase in concentration of several constituents but not all six presented above.

Although there appears to be a trend and increase in contaminant concentration during the past year, an overall trend from the initial sampling date of 2000 for MW-1, -2, -3, and –4, and 2001 for MW-5, -6, -7, -8, and –9 could not be established. Contaminant concentrations increased and decreased during different times of the year. There is insufficient data to establish a trend analysis. Additional sampling on a quarterly basis is necessary to establish a trend analysis. Table 3 provides a summary of groundwater sample analytical results for years 2000 through 2003.

RECOMMENDATIONS

It is our recommendation to continue groundwater monitoring and sampling for a minimum of one year or until a trend analysis can be established. Information from another year of groundwater sampling and monitoring should provide sufficient data to clearly determine if a trend analysis can be established.

TABLE 1
MONITORING WELLS AND GROUNDWATER ELEVATIONS
AUGUST 2003

Well Location	Top of Casing Elevation[1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-1	100.00	28.31	71.69
MW-2	97.50	25.89	71.61
MW-3	97.15	25.49	71.66
MW-4	94.08	22.50	71.58
MW-5	97.46	25.87	71.59
MW-6	97.02	25.43	71.59
MW-7	98.65	26.97	71.68
MW-8	97.25	25.58	71.67
MW-9	92.22	20.80	71.42

Notes:

[1] Based on an arbitrary datum of 100 feet at the top of monitoring well MW-1.

TABLE 2
QUARTERLY GROUNDWATER SAMPLE ANALYTICAL RESULTS, AUGUST 2003

Sample Location	TPHg[1] [9]	TPHd[1][9]	Benzene[2] [9]	Ethyl-Benzene[2] [9]	Toluene[2] [9]	Total Xylene[2] [9]	MTBE[3][9]	TBA[4][9]	DIPE[5][9]	ETBE[6][9]	TAME[7][9]
MW-1	**34**	nd [8]	nd	nd	nd	nd	**161**	nd	nd	nd	nd
MW-2	**65800**	nd	**2690**	**1640**	**7990**	**6710**	**118**	nd	nd	nd	nd
MW-3	**15300**	nd	nd	**401**	nd	**856**	nd	nd	nd	nd	nd
MW-4	**26**	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
MW-5	**19600**	nd	**395**	**221**	**673**	**934**	**43.4**	nd	nd	nd	nd
MW-6	**82100**	nd	**2820**	**1420**	**9260**	**6060**	**158**	nd	nd	nd	nd
MW-7	**24400**	nd	**5.65**	**202**	nd	**241.6**	nd	nd	nd	nd	nd
MW-8	**6520**	nd	nd	**15.1**	nd	nd	nd	nd	nd	nd	nd
MW-9	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

Notes:

1 TPH = Total petroleum hydrocarbons in general accordance with Modified EPA Method 8015B.
2 Benzene, ethylbenzene, toluene and total xylene analyzed in general accordance with EPA Method 8260B.
3 MTBE = Methyl T-butyl Ether analyzed in general accordance with EPA Method 8260B.
4 TBA = Tert-Butyl Alcohol analyzed in general accordance with EPA Method 8260B.
5 DIPE = DI-Isopropyl Ether analyzed in general accordance with EPA Method 8260B.
6 ETBE = Ethyl Tert-Butyl Ether analyzed in general accordance with EPA Method 8260B.
7 TAME = Tert-amyl methyl Ether analyzed in general accordance with EPA Method 8260B.
8 nd = Not detected above the analytical method reporting limit.
9 All concentrations in micrograms per liter.

TABLE 3
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001, 2002 AND 2003

Sample Location	Sampling Date	TPHg[1][5]	Benzene[2][5]	Ethylbenzene[2][5]	Toluene[2][5]	Total Xylene[2][5]	MTBE[3][5]
MW-1	02/25/00	nd[4]	**0.9**	nd	nd	**2.5**	**79.6**
	02/05/01	**430**	nd	nd	nd	nd	**364**
	05/14/01	**609**	nd	nd	nd	nd	**347**
	08/20/01	**31**	nd	nd	nd	nd	**409**
	11/12/01	nd	nd	nd	nd	nd	**458**
	02/18/02	**135**	nd	nd	nd	nd	**395**
	12/30/02	**22.0**	nd	nd	nd	nd	**99.1**
	03/25/03	nd	nd	nd	nd	nd	**88.6**
	06/06/03	nd	nd	nd	nd	nd	**80.2**
	08/11/03	**34**	nd	nd	nd	nd	**161**
MW-2	02/25/00	**83,200**	**5,930**	**1,940**	**13,800**	**8,890**	**833**
	020/5/01	**62,000**	**4,870**	**1,750**	**10,200**	**9,360**	nd
	05/14/01	**14,600**	**2,130**	nd	**3,600**	**4,410**	nd
	08/21/01	**53,100**	**2,450**	**942**	**4,760**	**4,620**	nd
	11/13/01	**94,500**	**3,110**	**1,250**	**7,500**	**5,160**	nd
	02/19/02	**73,000**	**3,490**	**1,310**	**8,150**	**6,550**	nd
	12/31/02	**12,000**	**1,280**	**640**	**3,370**	**2,446**	nd
	03/26/03	**46,000**	**2,060**	**969**	**5,270**	**4,240**	nd
	06/09/03	**59,100**	**2,280**	**1,350**	**6,290**	**5,280**	nd
	08/12/03	**65,800**	**2,690**	**1,640**	**7,990**	**6,710**	**118**
MW-3	02/25/00	**8,240**	**19**	**38**	**342**	**1,270**	**94**
	020/5/01	**7,000**	nd	**330**	nd	**742**	nd
	05/14/01	**106**	nd	nd	nd	nd	nd
	08/21/01	**12,500**	nd	**222**	nd	**561**	nd
	11/12/01	**2,430**	nd	**39.3**	nd	**37.9**	nd
	02/19/02	**9,200**	nd	**165**	nd	**340.5**	nd
	12/31/02	**4,900**	nd	**159**	nd	**346.8**	nd
	03/26/03	**2,130**	nd	**53.5**	nd	**64.2**	nd
	06/09/03	**1,060**	nd	**28.2**	nd	**31.4**	nd
	08/12/03	**15,300**	nd	**401**	nd	**856**	nd
MW-4	02/25/00	nd	nd	nd	nd	nd	nd
	02/05/01	nd	nd	nd	nd	nd	nd
	05/14/01	nd	nd	nd	nd	nd	nd
	08/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd
	03/25/03	nd	nd	nd	nd	nd	nd
	06/06/03	nd	nd	nd	nd	nd	nd
	08/11/03	**26**	nd	nd	nd	nd	nd
MW-5	02/05/01	**13,100**	**1,620**	**421**	**1,650**	**2,300**	nd
	05/14/01	**726**	**19.9**	nd	**1.10**	**260.6**	**19.6**
	08/21/01	**9,280**	**522**	**168**	**593**	**763**	**16.1**
	11/13/01	**14,300**	**708**	**263**	**927**	**990**	**20.7**
	02/19/02	**5,400**	**232**	**78.4**	**314**	**394**	nd
	12/31/02	**2,400**	**206**	**102**	**292**	**399**	nd
	03/26/03	**5,200**	**120**	**127**	**424**	**547**	nd
	06/09/03	**10,800**	**443**	**270**	**901**	**1,248**	nd
	08/12/03	**19,600**	**395**	**221**	**673**	**934**	**43.4**
MW-6	02/05/01	**28,900**	**990**	**868**	**4,080**	**4,050**	nd
	05/14/01	**6,880**	**85.0**	nd	nd	**2,205**	**70**
	08/21/01	**41,300**	**1,420**	**845**	**4,290**	**2,760**	**124**
	11/13/01	**23,700**	**654**	**521**	**1,870**	**1,315**	**93.0**
	02/19/02	**24,000**	**642**	**464**	**1,430**	**1,355**	**97.2**
	12/31/02	**17,200**	**497**	**346**	**1,550**	**1,309**	**58.5**
	03/26/03	**8,300**	**272**	**246**	**1,060**	**871**	nd

TABLE 3 (continued)
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
YEARS 2000, 2001, 2002 AND 2003

Sample Location	Sampling Date	TPHg[1][5]	Benzene[2][5]	Ethylbenzene[2][5]	Toluene[2][5]	Total Xylene[2][5]	MTBE[3][5]
MW-6	06/09/03	**29,200**	**1,010**	**798**	**3,730**	**2,870**	nd
	08/12/03	**82,100**	**2,820**	**1,420**	**9,260**	**6,060**	**158**
MW-7	02/05/01	**6,180**	**4.2**	nd	nd	**168**	**3.7**
	05/14/01	**1,090**	**2.4**	nd	nd	**20.3**	nd
	08/21/01	**17,800**	**3.9**	**121**	**2.0**	**83.8**	nd
	11/12/01	**11,600**	**1.3**	**38.2**	nd	**14.0**	nd
	02/18/02	**5,600**	nd	**18.6**	**1.0**	**9.3**	nd
	12/31/02	**4,100**	**2.02**	**30.7**	nd	**20.24**	nd
	03/25/03	**5,240**	**4.56**	**49.5**	nd	**32.66**	nd
	06/09/03	**7,300**	**2.10**	**61.9**	nd	**43.4**	nd
	08/12/03	**24,400**	**5.65**	**202**	nd	**241.6**	nd
MW-8	02/05/01	**1,050**	nd	nd	nd	**19.7**	**2.3**
	05/14/01	**97.0**	nd	nd	nd	nd	nd
	08/20/01	**2,960**	nd	**11.7**	nd	**2.3**	nd
	11/12/01	**5,830**	nd	**36.3**	nd	**4.3**	nd
	02/18/02	**1,890**	nd	**7.1**	**1.1**	**1.1**	nd
	12/30/02	**1,300**	nd	**2.18**	nd	nd	nd
	03/25/03	**1,360**	nd	**2.53**	nd	nd	nd
	06/09/03	**2,640**	nd	**7.52**	nd	nd	nd
	08/11/03	**6,520**	nd	**15.1**	nd	nd	nd
MW-9	03/12/01	nd	nd	nd	**1.1**	nd	nd
	05/14/01	nd	nd	nd	nd	**3.4**	nd
	08/20/01	nd	nd	nd	nd	nd	nd
	11/12/01	nd	nd	nd	nd	nd	nd
	02/18/02	nd	nd	nd	nd	nd	nd
	12/30/02	nd	nd	nd	nd	nd	nd
	03/25/03	nd	nd	nd	nd	nd	nd
	06/06/03	nd	nd	nd	nd	nd	nd
	08/11/03	nd	nd	nd	nd	nd	nd

Notes:

[1] TPH = Total petroleum hydrocarbon (in gasoline range) in general accordance with Modified EPA Method 8015.
[2] Benzene, toluene, ethylbenzene and total xylene analyzed in general accordance with EPA Method 8260B.
[3] MTBE = Methyl tert- butyl ether analyzed in general accordance with EPA Method 8260B
[4] nd = Not detected above the analytical method reporting limit.
[5] All concentrations in micrograms per liter.

ATTACHMENT A

GROUNDWATER SAMPLING DATA SHEETS

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS